



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/596,981

09/06/2006

Rainer Muller

A8423PCT-UT

3846

43749

7590

01/16/2009

CHRISTOPHER PARADIES, PH.D.
FOWLER WHITE BOGGS BANKER, P.A.
501 E KENNEDY BLVD, STE. 1900
TAMPA, FL 33602

EXAMINER

GUGLIOTTA, NICOLE T

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

01/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,981	Applicant(s) MULLER ET AL.	
	Examiner NICOLE T. GUGLIOTTA	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/9/2008 & 10/23/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23 - 30, 33 - 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23 - 30, 33 - 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner's Note

1. Examiner acknowledges the amendments made to claims 23, 25 - 28, 30, 33 – 42, the addition of claims 43 – 46 and the cancellation of claims 31 – 32.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "honeycomb paneling is enclosed by a burn-through-proof foil" and the "side by side honeycombs" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

Art Unit: 1794

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The limitation "meeting the requirements for implementing effective fire protection in aircraft construction" in claim 35 is a relative term which renders the claim indefinite. The limitation "meeting the requirements for implementing effective fire protection in aircraft construction " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear which requirements Applicants are referring to and what is meant by "effective fire protection". The term "effective" is a relative term.

Claim Rejections - 35 USC § 103

Art Unit: 1794

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 23, 24, 29, and 34 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. (EP 0 279 620 A2, provided by applicant), in view of Fischer et al. (U.S. Patent No. 4,759,964).

8. In regard to claims 23 and 36, Humphries et al. disclose an aircraft (corresponds to applicant's vehicle based upon applicant's definition of vehicle, specification section [0009]) shell module in which the starboard panel and a port panel contains a dampening sheet of vinyl 80 separating honeycomb cores 82 on each side. Exterior to each honeycomb core 82 is a structural face 84. The panel is lightweight and suppresses transmission of sound while still maintaining structural integrity (Col. 4, Lines 6 - 11). Humphries does not disclose the honeycomb body to be made of paper or an aramide (aramid) or a burn-through-proof foil such as CFK or GFK positioned on each face of the honeycomb body.

9. Fischer et al. disclose a cellular structure covered on each side by a layer 3 of fibrous material. On the outer surface the structural panel is also provided with a layer 1 of fibrous material (Col. 2, Line 58 - Col. 3, Line 6). The fibers may be formed from any reinforcing material, e.g. glass fibres, impregnated carbon fibres, and the like. The

Art Unit: 1794

structural panel may be installed between any desirable clamping devices (Col. 4, Lines 25 - 28). The resin-rich, structural fibrous layers are not affected by flames (Col. 3, Lines 52 – 55). Fischer et al. disclose it is well known in the prior art for carbon fibre reinforced sandwich panels are intended for use in aero planes in order to keep as low as possible the operating deadweight and, as a consequence thereof, the fuel costs (Col. 1, Lines 24 - 29). Aluminum foil 2 serves as an insulation layer for the resin-rich interior of the floor panel (Col. 3, Lines 35 - 37). This layer 2 is preferably gas-tight; thus hot gases are prevented from passing through the layer and then burning the layer situated therebelow. This layer preferably also has good thermal conductivity, like aluminum, and thereby dissipated the heat (Col. 3, Lines 26 - 30). It would have been obvious to one of ordinary skill in the art at the time of the invention that CFK (carbon reinforced fiber) cover layers are adhered to honeycomb structures for use in airplanes due to their light weight and ability to dissipate heat, such as in the event of a fire, as disclosed by Fischer et al.

10. "The panels are produced in one working operating, and the panels may also be sealed laterally by a flame- and fume-resistant foil, e.g. metallic foil and preferably aluminum foil 5, which joins the two cover layers via the edges" (Col. 4, Lines 17 – 21). Examiner considers "flame- and fume-resistant foil" to be the same as "burn-through-proof". It would have been obvious to one of ordinary skill in the art at the time of the invention that the outermost layer of the panel must be "burn-through-proof", and that that outermost layer may be comprised of a flame resistant foil, such as aluminum foil, based upon the disclosure of Fischer et al.

Art Unit: 1794

11. Fischer et al. disclose in their figure the aluminum foil later 2, to be flat and the CFK layer to be flat. Therefore, when in a laminate, as suggested by Fischer et al., it would be obvious to one of ordinary skill in the art at the time of the invention that the foil would conform to the outer surface of the CFK layer.

12. In regard to claim 24, Humphries et al. are silent in regard the use of adhesive between honeycomb bodies or the use of a foil.

13. Fischer et al. disclose the first CFK layer is joined to a second CFK layer (between honeycombs) by a phenol resin, and said second layer is joined to a layer situated therebelow by epoxy resin (Col. 4, Lines 61 – 64).

14. It would have been obvious to one skilled in the art at the time the invention was made that adhesives, such as phenol resin and/or epoxy resin, would be used to attach the various layers of the honeycomb panel to one another, as disclosed by Fischer et al.

15. In regard to claim 28, it would have been obvious to one skilled in the art that stacking the honeycomb structures creates a plurality of CFK layers and to duplicate parts in order to form a multilayer structure, as shown by the Heitkamp in the arguments made of claims 24 – 27.

16. In regard to claim 29, Humphries et al. is silent in regard to the material for a honeycomb material.

Art Unit: 1794

17. Fischer et al. disclose a core preferably formed from impregnated, paper-like material, e.g. Aramid fibrous paper are advantageously flat (Col. 2, Lines 21 - 37).

18. It would have been obvious to one skilled in the art at the time the invention was made that aramid fibrous paper is commonly known in the art for the manufacturing of honeycomb paneling used in aircraft, as shown by Fischer et al.

19. In regard to claim 34 and 35, Humphries et al. is silent in regard to an adhesive.

20. Fischer et al. disclose the first CFK layer is joined to a second CFK layer (between honeycombs) by a phenol resin, and said second layer is joined to a layer situated therebelow by epoxy resin (Col. 4, Lines 61 – 64). Fischer et al. disclose their invention is intended for in the event of a fire and should be able to withstand temperatures of 700 - 800°C, and perhaps higher (Col. 2, Lines 6 – 12).

21. It would have been obvious to one skilled in the art at the time the invention was made that adhesive bonds from compounds such as phenol resin or epoxy resin would be non-detachable at high temperatures, as disclosed by Fischer et al.

22. In regard to claim 43, Fischer et al. disclose a burn-through-proof foil, as discussed for claim 36. Fischer et al. disclose, "The panels are produced in one working operating, and the panels may also be sealed laterally by a flame- and fume-resistant foil, e.g. metallic foil and preferably aluminum foil **5**, which joins the two cover layers via the edges" (Col. 4, Lines 17 – 21). Examiner considers "flame- and fume-

Art Unit: 1794

resistant foil" to be the same as "burn-through-proof foil" which encloses a burn-through-proof insulation (honeycomb panel).

23. Claim 25 – 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. and Fischer et al. as applied to claim 23 above, and further in view of Heitkamp (EP 0 624 462 A1, provided by applicant).

24. In regard to claims 25, 26, 27, and 42, Humphries et al. disclose at least two honeycomb bodies containing a dampening layer.

25. Fischer et al. disclose CFK cover layers above and below a single honeycomb layer.

26. Heitkamp discloses multiple layers of honeycomb structures (corresponds to Applicants' "plurality of honeycombs arranged side by side" (Figure 1). The construction of an outside or exposed skin 11 (corresponds to applicant's "top-supported cover layer") and a bottom or backside surface skin 15 is preferred (Pg 4, Line 58 – Pg 5, Line 1). According to Heitkamp, "The composite sandwich panel according to the present invention (Heitkamp's invention) is a structure which can be contoured, and is unique in that the composite design can accommodate most any environmental demand relative to fire containment. Each of the components plays a synergistic part in the overall design and construction" (Pg 7, Lines 33 - 36).

Art Unit: 1794

27. It would have been obvious to one skilled in the art at the time the invention was made that it is commonly known in the art to stack honeycomb structures to form a multilayered structure, as shown by Heitkamp.

28. In regard to claims 30, Fischer et al. disclose CFK insulation layers (CFK-Al-CFK cover layers), as noted above for claim 23. The resin-rich, structural fibrous layers are not affected by flames (Col. 3, Lines 52 – 55). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention for the cover layer, which would be in contact with the flames to be the CFK (carbon reinforced fibers) disclosed by Fischer et al.

29. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. and Fischer et al. as applied to claim 31 above, and further in view of Sigrafil® Corp (http://www.sglcarbon.com/sgl_t/industrial/sigrafil/index.html).

30. In regard to claim 33, Humphries et al. and Fischer et al. are silent in regard to the CFK barrier layers being a plastic foil.

31. Sigrafil® Corp disclose on their webpage (which is dated back to 2002, see “Wayback Machine” results) plastic carbon reinforced fiber having multiple advantages including good rigidity, corrosion resistance, low thermal expansion, low mass, excellent fatigue resistance, and vibration resistance.

Art Unit: 1794

32. It would have been obvious to one skilled in the art at the time the invention was made that CFK barrier layers in the form of a plastic foil has multiple advantages, as taught by Sigrafil® Corp.

33. Claims 37 – 39 and 44 - 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. and Fischer et al. as applied to claim 23 above, and further in view of M.C. Brady (U.S. Patent No. 2,581,625).

34. In regard to claims 37 – 39 and 44 – 46, Humphries et al. and Fischer et al. are silent in regard to the means of mounting the panels in the airplane fuselage.

35. M.C. Brady discloses attachment mechanisms such as rivets 18 (corresponds to applicant's connection element), washers 18a & 23a (corresponds to applicant's leadthrough/hole), nuts 23 (threaded hole), nut plates 24, through-bolts 28 (corresponds to applicant's connection element) to fasten the insulation panels to the inside stringers of the airplane fuselage (Col. 3, Lines 16 – 17, 41 – 44, 61 – 62 & Fig. 3 - 5).

36. It would have been obvious to one skilled in the art at the time the invention was made for threaded drill holes to be created when drilling a screw (a connection element) into the insulation material. Commonly known means of mounting honeycomb paneling to the aircraft fuselage has been disclosed by M.C. Brady, and therefore it would be obvious to use these commonly known means for mounting applicant's panels.

Art Unit: 1794

37. Claims 40 – 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chee et al. (WO 85/03032, submitted by Applicants), in view of in view of Heitkamp.

38. In regard to claims 40 and 41, Chee et al. disclose (Fig. 4, Panel No. 23 & Fig. 6 panels A1 and A2) a panel sandwiched together in the following order: Celion (graphite), Kevlar, Core, Celion, Celion. Celion is a graphite reinforced fiber (corresponds to Applicants' "carbon reinforced fiber" plastics layer). The core may be a honeycomb configuration (Figure 2 & Page 15, Lines 1 – 17). The honeycomb cores were made of aramid fiber (Page 16, Lines 1 – 2). Chee et al. are silent in regard to stacking more than one honeycomb of their invention on top of one another, as well as the addition of a top-supported cover layered and a bottom-supported cover layer.

39. Heitkamp discloses multiple layers of honeycomb structures (corresponds to Applicants' "plurality of honeycombs arranged side by side" (Figure 1). The construction of an outside or exposed skin 11 (corresponds to applicant's "top-supported cover layer") and a bottom or backside surface skin 15 is preferred (Pg 4, Line 58 – Pg 5, Line 1). These skins are made of inorganic fiber, which include glass fibers. "These inorganic fibers serve as a fire barrier in the composite sandwich panel" (Page 3, Lines 13 - 26). According to Heitkamp, "The composite sandwich panel according to the present invention (Heitkamp's invention) is a structure which can be contoured, and is unique in that the composite design can accommodate most any environmental demand relative to fire containment. Each of the components plays a synergistic part in the overall design and construction" (Pg 7, Lines 33 - 36).

Art Unit: 1794

40. First, it would have been obvious to one of ordinary skill in the art at the time of the invention that a wider panel would give greater flame resistance due to simply being a greater physical barrier for the flames to overcome. Therefore, duplicating the invention of Chee et al. as a stack of honeycombs adhered to one another would have been an obvious modification to make. Examiner refers applicant to MPEP § 2144.04 Section VI. Duplication of Parts. *In re Harza* 274 F.2d 669, 124 USPQ 378 (CCPA 1960). The court upheld that mere duplication of parts has no patentable significance unless a new and unexpected product is produced. Second, it would have been obvious to one of ordinary skill in the art at the time of the invention that stacking a plurality of honeycombs, such as those disclosed by Chee et al., would improve fire containment, as disclosed by Heitkamp.

41. In regard to claim 42, Chee et al. disclose "the honeycomb/laminate structures shown in Fig. 2 has two laminate portions of essentially the same construction as the portion of the panel shown in Figure 1" (Page 15, Lines 1 -3) and when discussing Figure 1, Chee et al. disclose "the reinforcing woven fabric in the outer layers that are directly exposed to the fire prevent penetration of the first into the lower layers and therefore prevent exposure of the graphite, aramid, and glass fibers (of the honeycomb core) to the flame of the fire" (Page 13, Lines 25 – 29). As previously noted above for claim 40, Chee et al. disclose a graphite (carbon) reinforcement fiber as the face sheet. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

Art Unit: 1794

invention to use a graphite (carbon) reinforcement fiber as the top-supported cover layer of the entire honeycomb assembly.

42. Claims 40 – 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorges (U.S. Patent No. 4,557,961), in view of in view of Heitkamp.

43. In regard to claims 40 and 41, Gorges discloses a light-weight, fire-retardant structural panel comprising a paper honeycomb core (Col. 6, Lines 12 - 15) with “upper and lower face sheets 15, 16 formed of a fibrous material impregnated with a phenolic resin so as to further enhance the fire resistance characteristics of the panel 10. While acceptable result have been attained using fiberglass materials impregnated with phenolic resin, even more satisfactory results have been attained utilizing graphite (carbon) fibers impregnated with phenolic resin (Col. 6, Lines 36 - 43). Gorges is silent in regard to stacking more than one honeycomb of their invention on top of one another, as well as the addition of a top-supported cover layered and a bottom-supported cover layer.

44. Heitkamp discloses multiple layers of honeycomb structures (corresponds to Applicants’ “plurality of honeycombs arranged side by side” (Figure 1). The construction of an outside or exposed skin 11 (corresponds to applicant’s “top-supported cover layer”) and a bottom or backside surface skin 15 is preferred (Pg 4, Line 58 – Pg 5, Line 1). According to Heitkamp, “The composite sandwich panel according to the present invention (Heitkamp's invention) is a structure which can be contoured, and is unique in

Art Unit: 1794

that the composite design can accommodate most any environmental demand relative to fire containment. Each of the components plays a synergistic part in the overall design and construction" (Pg 7, Lines 33 - 36).

45. First, it would have been obvious to one of ordinary skill in the art at the time of the invention that a wider panel would give greater flame resistance due to simply being a greater physical barrier for the flames to overcome. Therefore, duplicating the invention of Gorges as a stack of honeycombs adhered to one another would have been an obvious modification to make. Examiner refers applicant to MPEP § 2144.04 Section VI. Duplication of Parts. *In re Harza* 274 F.2d 669, 124 USPQ 378 (CCPA 1960). The court upheld that mere duplication of parts has no patentable significance unless a new and unexpected product is produced. Second, it would have been obvious to one of ordinary skill in the art at the time of the invention that stacking a plurality of honeycombs, such as those disclosed by Gorges, would improve fire containment, as disclosed by Heitkamp.

46. In regard to claim 42, as discussed above for Claim 40, Gorges discloses the superior fire-resistance of graphite (carbon) reinforced fiber face sheets. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a graphite (carbon) reinforcement fiber as the top-supported cover layer of the entire honeycomb assembly because the top-support cover layer would be in direct contact with the flames.

Double Patenting

47. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

48. Claims 36 and 38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of copending Application No. 10/596,982 (US 2006/0284014 A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because they both address the same components and features of the insulation package for the interior of an aircraft fuselage.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

49. Claims 23 and 40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/596,418. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim the same insulation package and the same components of this package.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Amendment

50. The rejections of claims 26, 27, 30, 34, and 35 under 35 U.S.C. §112, second paragraph, which were cited in the previous office action, are withdrawn due to Applicants' amendments.

Response to Arguments

Claim Rejections - 35 USC § 103

51. Applicants argue, "Neither Humphries no(r) Fischer et al., taken alone or in combination, teach or suggest a burn-through-proof foil arranged such that the burn-through-proof foil conforms to the outer surface of the GFK layer or the CFK layer" (Remarks, Pgs 8 - 9).

52. Applicants' arguments filed October 9, 2008 have been fully considered but they are not persuasive. Fischer et al. disclose in their figure the aluminum foil layer 2, to be flat and the CFK layer to be flat. Therefore, when in a laminate, as suggested by

Fischer et al., it would be obvious to one of ordinary skill in the art at the time of the invention that the foil would conform to the outer surface of the CFK layer.

53. Applicants argue, "The Office Action admits that Humphries fails to teach or suggest a CFK layer or a GFK layer. Humphries fails to identify a burn-through-proof foil arranged on a CFK layer or a GFK layer" (Remarks, Pg 9).

54. In response to Applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

55. Applicants argue, "Fischer et al. teaches that aluminum foil would normally not withstand the temperature ceiling in a fire condition and would melt. However, as taught in column 3, lines 45 – 55, Fischer et al. teaches that the melting and wearing of the fabric ply 1 as the outermost surface ply reduces the flame temperature to such an extent that the aluminum foil does not melt. Thus, neither the fabric ply 1 nor the aluminum foil 2 need to be burn-through-proof foil" (Remarks, Pg 9).

56. Applicants' arguments filed October 9, 2008 have been fully considered but they are not persuasive. Examiner directs Applicants to Fischer et al. Col. 4, Lines 17 - 21, in which Fischer et al. disclose "The panels are produced in one working operating, and the panels may also be sealed laterally by a flame- and fume-resistant foil, e.g. metallic

Art Unit: 1794

foil and preferably aluminum foil 5, which joins the two cover layers via the edges."

Examiner considers "flame- and fume-resistant foil" to be the same as "burn-through-proof". It would have been obvious to one of ordinary skill in the art at the time of the invention that the outermost layer of the panel must be "burn-through-proof", and that that outermost layer may be comprised of a flame resistant foil, such as aluminum foil, based upon the disclosure of Fischer et al.

57. Applicants argue, "For this reason, the teachings of Fischer et al. cannot merely be mixed and matched with the teachings of the prior art" (Remarks, Pg 10).

58. Applicants' arguments filed October 9, 2008 have been fully considered but they are not persuasive. First, it has not been clearly articulated by Applicants which claim and which limitation of that claim they are arguing with the above statement. For the Examiner to respond to this argument, it must be clear which claim and which limitation Applicants are arguing.

59. Applicants argue, "the teachings of Fischer et al. clearly teaches away from a combination with Humphries, because the honeycomb core sandwich of Humphries provides no fire resistance, whatsoever, and would be expected to increase smoke in the cabin. Although the type of adhesive used to bond the vinyl damping sheets 80 to the honeycomb cores 82 or the face sheets 84 to the honeycomb cores 82 is not expressly provided in Humphries, it must be assumed that Humphries used methods known in the art, and Fischer et al. clearly teaches away from such prior art honeycomb

Art Unit: 1794

core sandwich structures as not meeting the smoke and fire preventive needs of the aviation industry. For this reason, no person of ordinary skill in the art would combine the teachings of Humphries and Fischer et al., which teaches away from prior art like Humphries" (Remarks, Page 11, 3rd paragraph).

60. Applicants' arguments filed October 9, 2008 have been fully considered but they are not persuasive. Examiner interprets the phrase "fire resistance" broadly and argues that any material that is not flammable would "resist" fire because it would be a physical barrier.

61. Applicant's arguments appear to be based upon the assumption that the reference of Humphries et al. was published before that of Fischer et al. Examiner respectfully points out that the disclosure of Fischer et al. was published before that of Humphries et al., and therefore it is impossible for Applicants to assume that the prior art Fischer et al. seeks to improve upon would include the Humphries et al. reference.

62. Applicants argue, "Claims 24 – 30 and 33 – 39 depend from claim 23 incorporating all of the limitations of claim 23 and additional limitation; therefore, neither Humphries nor Fischer et al. establish prima facie obviousness over these dependent claims" (Remarks, Page 11).

63. Applicants' arguments filed October 9, 2008 have been fully considered but they are not persuasive. Examiner refers Applicants to arguments made above in defense of the Humphries et al., in view of Fischer et al.

Art Unit: 1794

64. Applicants argue, "Claim 40, as amended, includes limitations to carbon fiber reinforced plastics (CFK) layers only, without metal layers interposed. Thus, Fischer et al. expressly teaches away from the limitations of claim 40, and no person of ordinary skill in the art would combine the teachings of Fischer et al. and Humphries. Claims 41 and 42 depend from claim 40 incorporating all of the limitations of claim 40 and additional limitations; therefore, claims 40 - 42, as currently amended, are now in condition for allowance" (Remarks, Pages 11 - 12).

65. Applicant's arguments with respect to claims 40 - 42 have been considered but are moot in view of the new ground(s) of rejection.

66. Applicants argue, "Heitkamp specifically teaches away from other multilayered honeycomb core sandwich structures of the prior art that fail to be burn-through-proof. See Page 2 of Heitkamp. However, Heitkamp teaches the necessity of using a septum layer of inorganic fiber membrane and/or a vermiculite film sandwich between phenolic prepreg; therefore Heitkamp teaches away from combination with any of the other references and teaches away from the limitations of the pending claims. The reference teaches that the prior art is incapable of achieving the burn-through times of up to 15 minutes as achieved using the specific examples provided by Heitkamp. For this reason, no person of ordinary skill in the art would combine Heitkamp with any of the other references" (Remarks, Page 12).

67. Applicant's arguments filed October 9, 2008 have been fully considered but they are not persuasive. First of all, Applicant states Heitkamp discloses "burn-through times

Art Unit: 1794

of up to 15 minutes”, as mentioned above. This is incorrect. Heitkamp et al. disclose “the composite sandwich panel...is capable of preventing burn-through after 15 minutes” (Page 3, 24 – 26). Therefore, Heitkamp’s disclosure suggests their panel prevents burn-through for longer than 15 minutes. Second, Heitkamp et al. disclose a honeycomb panel with burn resistance, as do Humphries and Fischer et al. Therefore, the references are common art and do not teach away from one another. The argument that a reference (prior art) considers itself novel at the time of its invention does not mean that it “teaches away” from all common art published prior to it. Third, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Heitkamp teaches a plurality of honeycomb layers stacked upon themselves (Figure 1), with additional top and bottom support layers, and is referenced for this reason.

68. Applicants argue, “And even if Heitkamp were combined, Heitkamp fails to teach or suggest any of the limitations of claims 23 and 40 omitted by Fischer et al. and Humphries” (Remarks, Page 12).

Art Unit: 1794

69. Applicants argue, "nothing on the Sigrafil website teaches or suggests any of the limitations of claims 23 and 40 omitted by Fischer et al. and Humphries" (Remarks, Page 12).

70. Applicants argue, "nothing in the M.C. Brady reference teaches or suggests any of the limitations of claims 23 and 40 omitted by Fischer et al. and Humphries" (Remarks, Page 12).

71. Applicants' with regard to claim 23 is not persuasive. Examiner directs Applicants to arguments made above. Applicants' arguments with respect to claim 40 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

72. Applicants argue, "The claims and disclosure of U.S. Pat. Appl. No. 10/596,418 discloses none of the patentable features of the Applicant's claims pending in the present application, and the present application and claims disclose none of the patentable features of the claims in U.S. Pat. Appl. No. 10/596,418.

73. "Specifically, U.S. Pat. Appl. No. 10/596,418 is drawn to an arrange of a field insulation package that improves safety and eliminates a separate package for use on support structures. The claims of the present application have no limitations to the patentable features that are subject matter of this cited reference.

74. "Likewise, the present application is drawn to the use of honeycomb core bodies as a replacement or in addition to filed insulation packages. The subject matter of U.S.

Art Unit: 1794

Pat. Appl. No. 10/596,418 does not disclose any of the patentable features of the presently pending claims” (Remarks, Pages 12 – 13).

75. Applicant's arguments filed October 9, 2008 have been fully considered but they are not persuasive. U.S. Patent Appl. No. 10/596,418 is drawn to the "internal insulation of a vehicle." Examiner considers honeycomb paneling (which corresponds to "internal insulation") on the inside of an aircraft (which corresponds to "a vehicle") to be drawn to the same invention and used for the same general intent as the instant application. Therefore the provisional non-statutory double-patenting rejection, in regard to Application 10/596,418, is maintained.

Conclusion

76. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1794

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE T. GUGLIOTTA whose telephone number is (571)270-1552. The examiner can normally be reached on M - Th 8:30 - 6 p.m., & every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NICOLE T. GUGLIOTTA
Examiner
Art Unit 1794

/JENNIFER MCNEIL/

Supervisory Patent Examiner, Art Unit 1794